Joan Glickman:
... today's webinar, I'm going to go through our progress to date in implementing the Home Energy Score across the country in a pilot program and also provide some background information for those of you who are not yet familiar with the Home Energy Score project.

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We developed the Home Energy Score with certain objectives in mind. We realized that there was a great need to strengthen the home energy retrofit market and that basically homeowners across the country could save money and save energy by making improvements to their homes, but they're really not doing so in wide numbers at this point. There are some great programs across the country, Home Performance with ENERGY STAR® and other programs that are working with utilities to make improvements, but the vast majority of homeowners are still not investing in energy efficiency. So we wanted to find a way to encourage that kind of investment. We recognize that one of the things standing in the way of homeowners was quick and easy information and also credible information about how their home performs in terms of energy efficiency. So that's really what the Home Energy Score is about. It's about giving homeowners easy access to affordable and credible information about their homes, telling them how they can improve it, also telling them how they compare to others in their area. We wanted to build on and complement existing home energy programs out there in the nation, and we are doing that. And we also wanted to make sure that there was a place that the workers that have been trained under the Recovery Act, through the funds that went through Weatherization, have a place to go and basically can use that training and apply it to the private sector when they are done and when the money ramps down in the Weatherization area.

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Here's a picture of the first page that a homeowner receives if they have their home scored under this program. What the Home Energy Score tells them with a quick look at this one page, is just how their home scores today. And the score of this house, although it's fictitious, scored a 7. And it also shows how they can score if they make the recommended upgrades that the Home Energy Score is providing them along with the score. So in this case, a home could go from a 7 to a 9, and with an estimated annual savings of about $350. One thing to note, and that's really important, is that the score also shows them how they compare to the top 20 percent of similarly sized homes in their area. We've broken the country out into 19 different climate zones. This shows you where this house is located, in Arkansas. And we've also broken homes into larger homes, which are greater than 2,200 square feet, and smaller homes, which are less than 2,200 square feet. So if you're in a large home, it will tell you how you compare to homes of that size in your area. In this case, the top 20 percent of larger homes scored 8 or above.

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In addition to this front page, we provide homeowners with tips on what they can do easily in their homes to save energy. And while the Home Energy Score looks at the asset of the home, that is, the envelope, windows, the foundation, the structure of the home, as well as the major energy systems (and those are heating, cooling, and hot water), these tips really focus on everything in the house, in looking at what you can do with the simplest changes to your behavior to save energy and save money.

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The third page is the recommendations page. And the tool that is used to generate the score also provides these recommendations. The recommendations are broken up into two areas: improvements that you can make today, and these focus -- in this case, these are pretty common recommendations, how to strengthen the tightness of your home, and avoid leaks, and also how to seal your ducts. In this case, it's looking at an estimated utility bill savings of about $500 for sealing the gaps and cracks in the home. It also shows you how much you would save with that improvement in terms of greenhouse gas reductions, for those folks who are interested in how this all affects climate change. We also make recommendations for the future. So when you're ready to replace a water heater, or a furnace in this case, we are strongly encouraging folks to go for one that qualifies under the ENERGY STAR program. Obviously making that choice can save the homeowner energy in the long run. They might cost more up-front, but in most cases the payback on those higher efficiency versions of the equipment pay off very quickly. I should say and stress that this page is optional. If an assessor goes into a home and is using a different tool or some other type of program to generate recommendations, they do not have to provide these recommendations. Obviously we don't want an assessor to provide two types of recommendations that may not synch entirely, and so if an assessor who's going into a home can see more than what we're looking for in the Home Energy Score evaluation, then we want the recommendations obviously to be as targeted as possible. So we recognize that a provider might be able to generate recommendations that are much more targeted. If an assessor is not providing any other recommendations, we do require that this page is given to the homeowner, because even if they're not completely spot-on, they will generally direct the homeowner in the right direction. And get them started in terms of what kinds of improvements make sense and are cost-effective.

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To generate the Home Energy Score, an assessor has to use our Home Energy Scoring Tool. And to access this, this is the front page, you need to have -- it's access-restricted; you'll need to have an ID and a password. In order to get the ID and password, the assessor needs to meet certain certification and training requirements. And once they prove that they do meet those, we provide a password and ID. We provide training online, and we also have a test online that the assessor has to pass before getting the access.

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Back in November, when Vice President Biden announced this program, he announced that we'd be partnering with different organizations around the country to really test what we had developed with the Home Energy Score. And we have some great partners all around the country. As you'll see, all the ones in red were formal partners. Utah worked with us. They were a little different in that they did not actually provide the homeowners with the score. They were one that joined us kinda late in the game. But we were very, very happy that they were able to join us, because they provided a lot of great data. We learned a tremendous amount from these different partners. They went into homes, they provided the Home Energy Score, they provided questionnaires to homeowners, and they also provided questionnaires to their assessors to get us a lot of terrific feedback on what could be improved.

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All in all, the nine pilots that completed the program, all but two scored more than 100 homes, or assessed more than 100 homes. Not including Utah, more than 1,000 homes were assessed. We had 31 assessors who qualified and were part of the program; 24 of them responded to our questionnaires and also participated in conference calls along the way where we got a lot of great feedback on what kinds of improvements we needed to make to the tool and to the materials that we provide them. In most cases, what we found was that scores reflected a relatively normal distribution. That is, most homes scored in the middle, and a few homes scored on the ends, getting a 1 or a 10. The only case where we didn't have a normal distribution was in Chicago, and that might be due to the fact that the homes that they scored, the median age of the homes was 1924, I believe, and therefore they were quite old. They scored in the lower range, the 1s, 2s, and 3s, but we're also looking to see whether that's because they were older homes or also whether we need to make certain changes to the scoring tool and how it calculates energy use for those homes. We're working with Lawrence Berkeley National Lab and the National Renewable Energy Lab to analyze the data we received from these pilots. We've also collected data from other sources that were running through the scoring tool and through other types of scoring methodologies out there, to see how our method compares to others.

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What we tested was really looking at whether or not we had selected the right inputs to be collected when an assessor goes into a home. We've asked for about 40 inputs, and we want to make sure that those are the most important inputs we need to accurately characterize how efficient that home is. So far what we found is that we think we are collecting the right data. What we did when we put together the Home Energy Scoring Tool was we decided which things we thought were most important and characterizing the efficiency of the home. What we're trying to do is make sure that an assessor can go through a home within an hour, collect the data, and generate the score. So although it might be nice to have additional information, we were trying to find that sort of precise point at which additional information gave marginal benefit. We're also looking at whether or not diagnostics make a big difference, or what type of difference they make in the score. So, many of our partners were doing blower door tests and other types of diagnostic tests. So we're using that information and seeing how widely the score might vary if you have that information versus if you do not. Particularly, it costs more more money if you're doing diagnostics, and we're trying to figure out whether or not we need to require that for a score. We're also looking at how effective the recommendations are that the tool generates and how well they synch with the recommendations that the assessors were making on their own or through other tools. And as I said before, we're also comparing how our scoring tool matches up to the scoring methods of other tools that are in the marketplace. We're looking at the bins, as I said, we have -- it's a 10-point score regardless of where you are in the country, but the energy use that a 5 would get, for instance, in Minnesota, is different than the energy use allowed for a home that's in San Diego. So clearly a home in Minnesota is going to be using a lot more energy to make the homeowner comfortable than one in San Diego. So we're trying to make sure that the levels that we selected for each of the 10 points in each of the 19 climate zones accurately reflect what's the efficiency levels in those homes. One important part of this has been learning about how the assessors really understand what we're trying to do and what we're trying to collect. Clearly in order for this to be a credible scoring method, we need to make sure that assessors understand what it is we're asking them to collect, so that one assessor

and another that go into the same home would get the same results. We're also looking at homeowner understanding reaction, whether or not we've made the information too simple or too complicated. Unfortunately, the term of this project is not long enough to really look at how effective it's been in motivating homeowners to go ahead and make improvements. But we will be looking into that as we move forward with the project.

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Here is a timeline that gives you a general sense of where we are, where we've been over the last couple months, and where we're moving forward over the next few. We've brought the pilots together and had a terrific meeting with them here in D.C. in mid-July. It was terrific to get in-person feedback from all of the assessors and also to have them hear from one another about -- for the programs, I should say, not the assessors; I think in one case there was an assessor -- but to hear the programs give feedback and also learn from what each other had done in the field. We've been in the process of analyzing the results and we're still doing that. We may be doing additional focus groups. We did a series of focus groups before we announced the pilots last year, and we may be doing additional ones to just help us hone in on what type of improvements we should make visually and in terms of the actual information we provide homeowners. It may not be focus groups that we do. It might be other types of homeowner research. We're still working that out. We have already made significant improvements to the scoring tool. We used 2009 RECS data, which is the most recent version of the survey that the Census Bureau does. It's created I think a much more accurate -- it's allowed us to have a much more accurate depiction of homes by using that data. We've made improvements to the faults. We're also making a lot of changes to how we ask questions to the assessors, how we're training them and of course, we will be testing and debugging the scoring tool before its next version is released. We've been doing some conference calls and webinars with different types of groups. And we're in the process of recruiting partners for a national launch that we expect later this fall.

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I'm going to go through now what we learned from the pilots, at least a summary. They gave us, as I said, great information about how to improve the tips for assessors and also the training. We realize that we might need to provide some technical support, either through program partners or separately for assessors in the field. One of our partners, or more than one, actually, are working on developing a handheld application, and they think that would be a great way to get it to be even easier to use the scoring tool, which is Web-based. And there was some discussion of requiring mentoring of new assessors, and we're looking into whether or not we can do that through actual mentoring or whether we need to do something electronically where we have assessors who are not yet qualified go through fictional homes and make sure that they're measuring inputs correctly. There was quite a bit of discussion of providing homeowners with better information so that once you provide them with a score, you give them additional materials and also a hotline that they could call into. We will look and see whether or not we have the resources for that. There was some discussion that it would make sense to really hone in on best practices for homes in different climates. So the tips that we're giving, for instance, telling people what order they should make improvements to their home. Obviously the improvements that somebody would make in Atlanta versus Boston are probably quite different. And they thought it would also be useful to have a sheet that provided the homeowner with kind of a description of the existing conditions of the home. So if they ever want to go back and look

at this, they'll know what conditions there were at the time of the scoring and whether they made changes, they can keep that in mind for their future decisions about energy improvements. What we heard about the first page, or the label as some refer to it, was to keep it simple. Keep it the same across all markets but still allow some customization by program partners. There was also some discussion of whether or not we should show larger savings that encompass more than one year. So right now, on the front page, it shows a homeowner what their estimated savings would be for one year Maybe it makes more sense to show what the savings would be for three years or five years, because generally homeowners are staying in their homes more than one year after they make an improvement.

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We got a lot of feedback on how to improve the recommendations page. There was some discussion of allowing assessors to tailor the recommendations, and we'll have to see what the limitations are of our tool in doing that. There were some recommendations saying that we should provide a range or a percent of utility bill rather than an exact dollar savings estimate. And there's been a lot of feedback we've gotten, not only from our pilot partners but from others about perhaps getting rid of payback and just showing recommendations based on best value. There was -- one of our partners came up with this term, the zone of unattainability, which basically means that for instance if your home is a 3 and it can get to a 5, you may not be happy with the fact that it can't get to a 10. And the fact is that some homes probably just won't get to a 10. If they were built a long time ago, it's unlikely, unless you do a massive retrofit, that you would be a 10. But that doesn't mean you shouldn't motivate someone to still get to whatever level they can achieve in terms of energy efficiency. So we might provide additional information that not only shows somebody how they compare in terms of size, in terms of energy efficiency to homes of their similar size, but possibly how they compare to homes of similar vintage. And there was clearly an interest in developing regional and local partnerships to implement and market the Home Energy Score.

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Prior to the national launch, which as I said we plan to do in late fall, we're going to be establishing partnerships with efficiency programs and possibly individuals who are interested in using the Home Energy Score. We're focusing, really, on programs that are already out there delivering efficiency projects and programs to their customers, because we think they're probably in the best position to deliver the Home Energy Score. But we're also considering working with individuals because we've gotten a lot of interest expressed from individual assessors in the field. We are developing quality assurance requirements for both program partners, and if we do develop partnerships with individual assessors, the quality assurance that they would have to include as part of their program participation. And what I mean by quality assurance is providing documentation as to how the assessments were done, possibly, and as well as requiring some type of third-party verification just to make sure that assessors are all looking at homes in a similar way. We're also developing guidelines for local customization of the Home Energy Score information. As you probably saw and noticed on the front page, there's the DOE logo. So there's clearly certain restrictions as to how to use that logo. And so we'll have to figure out whether the information can be extracted from the pages that the Home Energy Scoring Tool develops or whether or not additional information can be included and how that would proceed. We're also finalizing the qualification requirements for assessors, whether or not they have to have certain

types of certification, whether or not they need to demonstrate their knowledge of building science in addition to having certification. Those types of considerations are what we're thinking about right now. As I said, we've already made improvements to the scoring tool, and we're continuing to do so before a national launch. We're making changes to the recommendations page, to the assessor training, and to the homeowner tips that are provided to the homeowner at the time of scoring. And of course, we're finalizing materials for homeowners and assessors.

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So with that, I will conclude our webinar. If you have additional inquiries or want to provide us some feedback, you can email us at homeenergyscore@sra.com. For those of you who actually develop software, if you're interested in figuring out how you can use the Home Energy Score with your software, LBNL is the lead on that. Or Lawrence Berkeley National Lab, I should say. And the place that you need to go is hesapi@lbl.gov. We will have this application programming interface available, probably not at the time of the launch but soon after. Probably in the spring of 2012. So it will be a flexible system that, for instance, if you use a different type of software system, if you license this API, you will be able to use it along with the Home Energy Score without having to double-entry your inputs. On that, we will conclude, and we look forward to your input and feedback. Thank-you.